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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte HALIM WIJAYA, RANGANATHAN MADHAVAN,
CURTIS M. JONES, and MANFRED KOBERSTEIN

Appeal 2018-002651
Application 12/831,380
Technology Center 3700

Before STEFAN STAICOVICI, BRANDON J. WARNER, and
ALYSSA A. FINAMORE, *Administrative Patent Judges*.

STAICOVICI, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellant¹ appeals under 35 U.S.C. § 134(a) from the Examiner's decision in the Final Office Action (dated Mar. 9, 2017) rejecting claims 1, 4–9, 12, 13, 16–19, and 21–23.² We have jurisdiction over this appeal under 35 U.S.C. § 6(b).

¹ Ford Global Technologies, LLC is identified as the real party in interest in Appellant's Appeal Brief (filed Sept. 11, 2017). Appeal Br. 2.

² Claim 20 is withdrawn, and claims 2, 3, 10, 11, 14, and 15 are canceled. Appeal Br. 2.

SUMMARY OF DECISION

We REVERSE and enter a NEW GROUND of REJECTION pursuant to our authority under 37 C.F.R. § 41.50(b).

INVENTION

Appellant's invention relates to a system and method for selecting incoming airflow between 100% fresh air and 100% recirculated air in a vehicle heating and cooling system. Spec. paras. 1, 6.

Claims 1, 9, and 13 are independent. Claim 1 is illustrative of the claimed invention and reads as follows:

1. A system for economically controlling a heating, ventilation and air conditioning (HVAC) system for a vehicle having an interior and an exterior comprising:
 - a fresh air opening;
 - a recirculated air opening;
 - a conditioner for heating or cooling air from said fresh air opening or recirculated air from said recirculated air opening;
 - a movable air inlet mechanism operatively associated with at least one of said openings for closing and opening or causing said opening to be fully or partially opened;
 - a temperature setting controller communicatively coupled to at least one of a solar radiation sensor, a humidity sensor, an outside ambient air temperature sensor, and an interior temperature sensor; and
 - a controller to which one of said sensors is connected and to which said air inlet mechanism is connected, said controller including an algorithm for first calculating climate load demand and second calculating fogging probability, said controller being programmed to cause said controller to selectively move said mechanism up to and including a position in which 100% of conditioned air in the vehicle is fresh air and up to and including a position in which 100% of conditioned air in the vehicle is recirculated air and to any position there between in response to a fogging probability determined from information signals from said at least one sensors,

wherein the calculation for climate load demand is based upon information received from said temperature setting controller and said at least one sensor and the calculation for fogging probability is based upon said interior temperature sensor, said humidity sensor, and said outside ambient air temperature sensor.

REJECTIONS

- I. The Examiner rejects claims 1, 4–9, 12, 13, and 21 under 35 U.S.C. § 103(a) as being unpatentable over Suetake,³ Daimon,⁴ and Kadle.⁵
- II. The Examiner rejects claims 16–19 under 35 U.S.C. § 103(a) as being unpatentable over Suetake, Daimon, Kadle, and Nadeau.⁶
- III. The Examiner rejects claims 22 and 23 under 35 U.S.C. § 103(a) as being unpatentable over Suetake, Daimon, Kadle, and Errington.⁷

ANALYSIS

Rejection I

The Examiner finds that Suetake discloses many of the limitations of independent claims 1, 9, and 13, but fails to disclose a controller programmed to selectively move an air inlet mechanism to any position between a position where 100% of conditioned air supplied to a vehicle is fresh air and another position where 100% of conditioned air is recirculated

³ Suetake et al., US 8,932,119 B2, issued Jan. 13, 2015.

⁴ Daimon et al., US 6,168,515 B1, issued Jan. 2, 2001.

⁵ Kadle et al., US 7,640,753 B2, issued Jan. 5, 2010.

⁶ Nadeau, US 6,874,990 B2, issued Apr. 5, 2005.

⁷ Errington, US 2006/0004494, published Jan. 5, 2006.

air. *See* Final Act. 3–4. Nonetheless, the Examiner finds that Daimon discloses a controller for moving an “air inlet mechanism to any position between a position in which between 100% of conditioned air is fresh air and 100% of conditioned air is recirculated air.” *Id.* at 4 (citing Daimon, col. 4, ll. 31–34, Fig. 2 (element S38)). Thus, the Examiner concludes that “[i]t would have been obvious to one of ordinary skill in the art at the time of invention was made to modify Suetake by using Daimon’s control mechanism in order to provide proper temperature control for passengers.” *Id.*

Appellant argues that the Examiner’s modification to continually adjust Suetake’s movable air inlet mechanism to regulate air intake in a vehicle to be partial fresh air and partial recirculated air, as taught by Daimon, would render “Suetake inoperative or ineffective.” Appeal Br. 12. According to Appellant, the Examiner’s modification “would render the air conditioner in Suetake unsatisfactory by unnecessarily altering between modes, which is specifically what Suetake seeks to avoid” and, moreover, “would render the air conditioner inoperable and not capable of accurately reducing the humidity in the vehicle.” Reply Br. 4 (filed Jan. 17, 2018).

The Examiner’s response does not provide adequate findings or reasoning rebutting Appellant’s arguments. *See* Ans. 9 (dated Nov. 17, 2017). More specifically, the Examiner does not sufficiently explain how Suetake’s air conditioner controller would operate to regulate air intake into its vehicle to be partial fresh air and partial recirculated air, as taught by Daimon. Appellant is correct that Suetake’s controller switches from an inside air circulating mode, i.e., recirculating air mode, to an outside air lead-in mode, i.e., fresh air mode, *only after* performing the following actions:

(1) “actuating a compressor to circulate a coolant to an evaporator,”

(2) “altering the direction of air being blown out within the vehicle . . . toward the windshield,” and (3) “increasing . . . the air volume as necessary in order to lower the humidity within the vehicle.” Appeal Br. 8–9 (citing Suetake, col. 2, ll. 28–36, Figs. 3A, 3B); *see also* Suetake, col. 2, ll. 45–51. Furthermore, Suetake specifically discloses “delay[ing] the switching to the external air lead-in mode *as much as possible*” in order to “continuously perform the air conditioning operation in the inside air circulating mode *as much as possible*.” Suetake, col. 7, l. 67–col. 8, l. 4 (emphasis added); *see also id.* at col. 2, ll. 51–52.

As the Examiner does not explain *when* Suetake’s controller would switch from a recirculating air mode to Daimon’s partial fresh air and partial recirculated air mode, we agree with Appellant that it is not clear how the introduction of fresh air, albeit at less than 100%, would affect Suetake’s actions noted above to lower the humidity level in the vehicle. *See* Appeal Br. 11. Stated differently, it is not clear from the Examiner’s rejection under what condition(s) would Suetake’s controller switch from a recirculating air mode to Daimon’s partial fresh air and partial recirculated air mode. As such, in light of Suetake’s object and purpose—to *delay* switching to a fresh air mode as long as possible—it would not have been obvious to a person of ordinary skill in the art to modify Suetake to unconditionally switch from a recirculating air mode to Daimon’s partial fresh air and partial recirculated air mode because such modification would not have maintained Suetake’s purpose.

Accordingly, on the record before us, weighing the Examiner’s reasons for combining the teachings of Suetake and Daimon against Appellant’s arguments supported with evidence from Suetake and unrebutted by the Examiner, we do not agree with the Examiner’s stated rejection. The

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Examiner's use of Kadle does not remedy the deficiency of the Examiner's Suetake and Daimon combination discussed *supra*. See Final Act. 4.

In conclusion, for the foregoing reasons, we do not sustain the rejection under 35 U.S.C. § 103(a) of claims 1, 4–9, 12, 13, and 21 as unpatentable over Suetake, Daimon, and Kadle.

Rejections II and III

The Examiner's use of Nadeau and Errington does not remedy the deficiency of the Suetake, Daimon, and Kadle combination discussed *supra*. See Final Act. 6–8.

Accordingly, for the same reasons discussed above, we also do not sustain the rejections under 35 U.S.C. § 103(a) of claims 16–19 as unpatentable over Suetake, Daimon, Kadle, and Nadeau, and of claims 22 and 23 as unpatentable over Suetake, Daimon, Kadle, and Errington.

NEW GROUND OF REJECTION

Claim 1 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Suetake, Daimon, and Kadle.

We adopt the Examiner findings regarding the teachings of Suetake. See Final Act. 3. Suetake does not disclose (1) a temperature setting controller; (2) a solar sensor; and (3) a controller for gradually varying an air inlet mechanism between a 100% recirculating air mode and a 100% fresh air mode and for calculating a climate load demand using an algorithm based upon information received from the temperature setting controller and at least one sensor. Daimon discloses a solar sensor and a controller for gradually varying an air inlet mechanism between a 100% recirculating air mode and a 100% fresh air mode. See Daimon, col. 2, l. 39, col. 4, ll. 31–34,

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col. 9, ll. 14–16, Fig. 5. Kadle discloses a solar sensor 64, a temperature setting controller 66 (user interface device) and a controller 28a for calculating a climate load demand (T_{mr}) using an algorithm (equation 1) based on information received from a plurality of sensors 63–66. *See* Kadle, col. 2, ll. 51–58, col. 3, ll. 3–22, Fig. 3.

As such, in a first instance, it would have been obvious for a person of ordinary skill in the art to modify Suetake’s controller to switch from a 100% recirculating air mode to Daimon’s partial fresh air and partial recirculated air mode *after* Suetake’s controller actuates a compressor to circulate a coolant to an evaporator, alters the direction of air being blown out within the vehicle towards the windshield, and increases the air volume, and *before* it switches to a 100% fresh air mode. Such a modification would have been obvious to the skilled artisan because it would limit the introduction of gas exhaust odors into the vehicle cabin. *See* Daimon, col. 9, ll. 21–22 (“restraint of sensorily evaluated exhaust gas odors”); Suetake, col. 8, l. 5 (“prevent deterioration in the inside air quality”).

In a second instance, it would have been obvious for a person of ordinary skill in the art to further modify the control system of Suetake and Daimon by providing the solar sensor of either Daimon or Kadle and the temperature setting controller and algorithm of Kadle, in order to set a desired temperature inside the vehicle, to determine the heating effects of solar radiation inside the vehicle, and to calculate a climate load demand, so as to adjust the temperature inside the vehicle by either decreasing or increasing the user’s desired temperature to offset increased or decreased solar radiation. *See* Kadle, col. 4, ll. 3–6. Although we decline to reject every claim under our discretionary authority under 37 C.F.R. § 41.50(b), we emphasize that our decision does not mean the remaining claims are

patentable. Rather, we merely leave the patentability determination of these claims to the Examiner. *See* MPEP § 1213.02.

SUMMARY

The Examiner's decision to reject claims 1, 4–9, 12, 13, 16–19, and 21–23 under 35 U.S.C. § 103(a) is reversed.

We enter a new ground of rejection of claim 1 under 35 U.S.C. § 103(a) as unpatentable over Suetake, Daimon, and Kadle.

This decision contains a new ground of rejection pursuant to 37 C.F.R. § 41.50(b). Section 41.50(b) provides “[a] new ground of rejection pursuant to this paragraph shall not be considered final for judicial review.”

Section 41.50(b) also provides (emphasis added):

When the Board enters such a non-final decision, the appellant, within two months from the date of the decision, must exercise one of the following two options with respect to the new ground of rejection to avoid termination of the appeal as to the rejected claims:

(1) *Reopen prosecution*. Submit an appropriate amendment of the claims so rejected or new Evidence relating to the claims so rejected, or both, and have the matter reconsidered by the [E]xaminer, in which event the prosecution will be remanded to the [E]xaminer. The new ground of rejection is binding upon the examiner unless an amendment or new Evidence not previously of Record is made which, in the opinion of the [E]xaminer, overcomes the new ground of rejection designated in the decision. Should the [E]xaminer reject the claims, appellant may again appeal to the Board pursuant to this subpart.

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(2) *Request rehearing.* Request that the proceeding be reheard under § 41.52 by the Board upon the same Record. The request for rehearing must address any new ground of rejection and state with particularity the points believed to have been misapprehended or overlooked in entering the new ground of rejection and also state all other grounds upon which rehearing is sought.

Further guidance on responding to a new ground of rejection can be found in the Manual of Patent Examining Procedure § 1214.01 (9th ed. 2018).

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

REVERSED; 37 C.F.R. § 41.50(b)